Louisiana Technology Innovations Fund

2003 Annual Report

www.state.la.us/ltif April 2003

Louisiana Technology Innovations Fund

Annual Report to the Legislature

"Using new technology does not make a project innovative. Applying technology in new ways to improve the efficiency and effectiveness of citizen services is what we are looking for."

Chad McGee, CIO

Executive Summary

As of April, 2003 seventy-two projects have been received by the Technology Innovations Fund Council for consideration. To date, twenty-five were selected for funding. They are as follows:

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/03
98-003	Point of Sale Hunting and Fishing	Wildlife and Fisheries	\$864,671	\$775,684	Complete
98-005	On-line Insurance Reporting	Public Safety	\$98,888	\$98,888	Complete
98-007	Distance Learning	Military	\$607,000	\$607,000	Complete
98- 007c	Skycell Satellite	Military	\$544,000	\$544,000	Complete
98-009	Patient Biometrics	LSU Medical Center, NO	\$862,500	\$3,588	Terminated
98-010	High Performance Computing System	LSU, BR	\$989,383	\$962,297	Complete
98-016	Campus Walls	LSU, Eunice	\$176,422	\$176,422	Complete

Log#	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/02
98-017	Multi-media Internet	Wildlife and Fisheries	\$67,410	\$54,461	Complete
99-001	Internet-based Video Conferencing	LSU Medical, Shreveport	\$765,010	\$765,000	Complete
99-004	Louisiana Treasures	LSU, BR and UNO	\$198,078	\$184,974	Complete
99-005	Lab for Info Technology and Spatial Analysis	UNO	\$449,700	\$448,178	Complete
99-006	OCDD Telemedicine	Health and Hospitals	\$956,982	\$895,160	Complete
99-012	LA E-mall	Division of Administrati on	\$925,000	\$920,095	Complete
99-014	Web-based Data Warehouse	Education	\$1,000,000	\$991,000	Complete
99-015	X-Band Satellite Ground Station	LSU, BR	\$970,795	\$953,704	In process, extension granted until 6/30/2003
99-016	Training Today's Students for Tomorrow's Work Environment	LSU, BR	\$275,000	\$274,060	Complete
01-001	Mobile Data Terminals	Wildlife and Fisheries	\$1,000,000	\$460,707	In Process
01-002	Saving Lives and Enhancing Efficiency: Managing Medications and Medical Supplies	LSU, Shreveport	\$950,000	\$126,112	In Process
01-003	A Prototype Enterprise Application Hosting Service	LSU, BR	431,900	\$431,718	In Process

Log#	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/02
02-001	State Trooper Mobile Office	Public Safety	\$361,400	\$359,378	In Process
02-002	Fire Marshall Information Management System	State Fire Marshall	\$1,000,000	\$618,000	In Process
02-010	LouisianaMAP	E-Services	\$472,175	\$43,070	In Process
02-011	Louisiana e- Government Portal	E-Services	\$998,590	\$32,725	In Process
02-013	Statewide Learning Management System	СРТР	\$386,000	\$133,880	In Process
02-014	Prototype for Centralized E-Mail	OIT	\$949,200	\$3,390	In Process

Budget Status

Fund Balance as of April 1, 2002			\$455,074
Increases in Revenue/Income			
	Interest Earnings	<u>\$154,536</u>	\$609,610
Expenditures /Obligations			
	Expenditures	(\$3,632,845)	
	Obligations	\$3,635,307	<u>\$2,462</u>
Fund Balance as of April 1, 2003			<u>\$612,072</u>

Accomplishments

- The current Council membership is as follows:
 - Chad McGee, CIO, Division of Administration
 - Dominic A. Cali, IT Director, Department of Transportation
 - Jerry Guillot, Chief of Staff, Senate Office
 - Bob Harper, Undersecretary, Department of Natural Resources
 - Butch Speer, Clerk of the House, House of Representatives
- During 2002
 - Nine projects changed from a status of "Approved" to 'In Process."
 - Two projects changed from a status of "In Process" to "Complete." To date the total number of funded projects completed within or under budget is 14.
 - no new awards were considered, due to budgetary constraints.
- The LTIF Web site, which is accessible on the Internet at http://www.doa.state.la.us/ltif/index.htm under *Info Louisiana* is being maintained to reflect the current status of the fund and recent activities. The site is updated regularly to reflect current progress status and progress reports for each project.

Project Summaries and Highlights

The LTIF was established to support innovative and exemplary projects that significantly contribute to the state's technology infrastructure and/or provide creative and concrete solutions for improving citizens' services.

A summary description and highlights for those projects that had activity during 2002 follows.



Department of Education

Web-Based Data Warehouse System

Log #: 99-014

Status: Complete

This initiative implemented a Web-accessible data warehouse to improve student achievement and teacher quality by providing educational administrators, principals, and teachers access to the data they need for effective planning and decision making.

The system provides information from student, staff, financial, and standardized test score data to be accessible 24 hours a day, seven days a week through a desktop with a web browser to all authorized users. For example, data is provided on:

- 1) Student information for demographics, grades, courses, discipline records, mobility rates, standardized test results, special ed, etc.;
- 2) Staff for demographics, staff counts by school, courses and students taught;
- 3) Financial information for budget by facility, actual to planned expenditures, expenditures by program, function, and object codes.

Highlights:

- Fourteen different systems comprised of student, financial, testing, staff, and accountability data were loaded into the warehouse.
- A portal at www.leadr.info was deployed for the display of publicly available reports. Over 40 reports are currently available with a projected number exceeding 300.
- School year 2000-2001 has been loaded.
- Ad hoc user capability has been supplied via a portal supplied by the Division of Administration
- State of the art technology and design features were incorporated into the EDW.
- Data is organized in a logical "business-like" format and easily accessible with a query tool, as opposed to residing in various databases and flat files and accessible only with a process language such as COBOL or SAS.
- Data request turnaround has been cut by 75%. It is expected to improve as more data is loaded into the warehouse and the skill set of the users improves.
- More data will become available to the public as customized and parameterized reports are published.
- Various interested groups such as legislative staff and department personnel will have data immediately available during meetings and conferences.



LSU Baton Rouge

An X-Band Satellite Ground Station for the State of Louisiana

Log #: 99-015

Status: In process,

Extension granted until June, 2003

The new X-band environmental satellite telemetry system gives Louisiana the capability of receiving and processing advanced direct broadcast, high resolution earth environmental information. This real-time access and analysis lends itself to a major decision support role for emergency management, public safety, public health, economic applications, resource management and research/education. The new satellite data acquisitions include Terra MODIS, Radarsat I SAR, ERS-2 SAR and Oceansat-1 OCM data. The SAR (Synthetic Aperture) provides advanced real-time, all-weather day/night satellite-derived environmental data for our state. The S and L band antenna systems, previously established in the laboratory, provide NOAA AVHRR, ARGOS and TOVS, Orbview-2 SeaWiFS and GOES GVAR data streams. The new X-band system can provide much more detailed measurements and maps of the earth, oceans and atmosphere on a time-series basis with higher spatial, spectral and radiometric resolutions. The new, higher resolution satellite data from MODIS and the Oceansat Ocean Color Monitor will provide time-series "birds eye" views of suspended sediments and phytoplankton blooms downstream of the largest Mississippi River diversions (Davis Pond and Caernarvon). These data could prove

Louisiana is one of six states capable of receiving and processing advanced data streams to be used for continuous on-going surveillance, research, and environmental management. Besides the environmental management benefits, this investment will give Louisiana regional and national leadership in the use and applications development of space-borne environmental science technology. Furthermore, Louisiana's leadership with the X-Band Station is expected to have a positive impact on our economic development efforts as space-borne environmental sciences and applications of this technology both locally, nationally, and world-wide continue to grow.

essential in the development of innovative management strategies for the diversions, maximizing benefits and minimizing negative impacts. The collected data will be linked via the Internet and managed as a non-profit data resource for Louisiana governmental entities and industry.

Highlights:

- In combination with other sensors, the MODIS data were used to monitor developments and movements of T.S. Isidore and Hurricane Lili in the Gulf of Mexico and along the Mexican coastline. (In collaboration with the Louisiana Office of Emergency Preparedness, NOAA, Southern Regional Climate Center).
- MODIS data have been used for air quality assessments and feasibility studies for ozone, haze, aerosols, and fog (in collaboration with DEQ, Port of Lake Charles and Minerals Management Service).
- MODIS data have been used for fire detection and surveillance over Louisiana (in collaboration with Louisiana Office of Emergency Preparedness, Southern Regional Climate Sensor).

- MODIS data have been used to determine coastal circulation in support of oil spill response activities (in collaboration with NOAA HAZMAT and local industry).
- MODIS and OCM data have been used to study the movement of river waters and algal blooms that develop in Louisiana's river diversion projects including Caernarvon, Davis Pond, Lake Pontchartrain and the Atchafalaya region (in collaboration with DNR, the LSU PULSES project, Jefferson Parish Environmental, the NOAA Coastal Ocean Program and EPA).
- MODIS and OCM are being used to research marsh changes in coastal Louisiana (LSU graduate student project).
- MODIS and OCM are being used in feasibility studies to calibrate/validate numerical models of circulation, sediment transport and waves along the Louisiana coastline (Faculty at the Coastal Studies Institute).
- MODIS and OCM are being used to map and understand habitats of infectious diseases in Louisiana and the southeast U.S (LSU Veterinary Science Dept.).

In addition to the above, this new facility has already helped to leverage funding from Federal and State sources for research and management of the environment. These include NASA (in collaboration with Southern University), National Institute of Health, National Science Foundation, Minerals Management Service, Dept of Environmental Quality, Dept. of Natural Resources, NOAA Coastal Ocean Program, Environmental Protection Agency and the Board of Regents. The new facility was featured in the Morning Advocate, Science and Technology page on February 10, 2003 (see www.esl.lsu.edu for easy access to article).

An extension was granted in order to make operational the Synthetic Aperture Radar (SAR) data in late March, 2003. This is the most complex and demanding of the data streams, most useful for emergency operations, since it is high resolution (8m) and provides measurements in all weather, regardless of cloud cover.



LSU Baton Rouge

Training Today's Student for Tomorrow's Internet Work Environment

Log #: 99-016

Status: Complete

This project, using the working title of "Robots for Internet Experiences (ROBIE)", was initiated May 15, 2000 and successfully completed on June 30, 2002.

The project successfully showed that technology in the classroom available over the internet can be a highly cost effective mechanism for educating and inspiring students about science and technology. It also became clear during the project that technology in the classroom cannot be an end in of itself. Rather, that technology must be accompanied by development of lessons and materials that guide the use of the technology, assuring that these materials are aligned with existing curriculum and content standards, and teacher training in science / technology content as well as the use of the technology lessons and guide materials. The pilot workshop and classroom evaluations conducted during the last program year showed ROBIE strengths and areas where improvement would be useful. With this information ROBIE will continue to be refined, using available resources.

Highlights

- Developed and deployed three internet accessible "robots" at the Highland Road Park Observatory (HRPO) for use by teachers and classrooms.
- Established a series of web sites to control the ROBIE instruments and disseminate educational information.
- Developed the capability at the HRPO to train teachers in content knowledge and the correct use of the ROBIE instruments.
- Were assisted by a Teacher Leader group who developed the educational materials necessary to guide teachers and students in the use of the "robots."
- Conducted a pilot workshop to train a small group of teachers in the use of the educational materials and instruments.
- Followed these teachers and their classrooms over the course of the year to assess the effect of the current ROBIE concept.
- Laid a foundation for expanding ROBIE beyond the initial three instruments.



Department of Wildlife and Fisheries

Mobile Data Terminals

Log #: 01-001

Status: In Process, 80% Complete

This project will implement a base foundation network to support Mobile Data Terminals (MDT's) for approximately 60 officers/vehicles in the Law Enforcement Division of the Department of Wildlife and Fisheries. MDT's provide agents with a direct link to frequently used sources: the National Crime Information Center, nationwide drivers license files, other natural resource protection agencies, state and local agencies, Fisheries Information Network, the Department of Wildlife and Fisheries Intranet, hunting, fishing, fishery landings, etc.

The immediate availability of relevant, crucial information will improve and increase the current delivery of services to Louisiana citizens and extend services to typically underserved citizens, those that live and work in more rural areas on hard to reach waterways. In addition to online compliance and enforcement functions, the laptop computer serves as an offline computer for report writing, time and attendance reports and crucial statistical information, all of which is captured and compiled in a database used to gauge performance relating to WLF's goals and objectives.

Highlights

- The dedicated T-1 interface with the Department of Public Safety has been secured, all equipment and software components (except Automatic Vehicle Location component) have been received, and everything is in place to install the system once the AVL is completed.
- Unforeseen delays in the RFP process have impacted the baseline status summary.



LSU Health Science Center, Shreveport -

Managing Medications and Medical Supplies

Log #: 01-002

Status: In Process, 25% Complete

This goals of this project are to 1) save patient lives and improve patient care through reduction of medication errors; 2) create sustainable and measurable cost savings by ensuring that all medications and supplies are appropriately tracked and charged to the patient and by reducing the cost of managing the procurement and distribution of medications and supplies; 3) enhance billing efficiency by interfacing to systems that are currently stand-alone; 4) reduce or re-allocate workforce by reducing manual data entry and manual tracking of medications and supplies.

This project is innovative because of the use of wireless Ethernet Personal Digital Assistants (PDAs) with barcode scanning capability. Although this concept is prevalent in the retail industry, it is a relatively new idea in healthcare. Medications and supplies will be barcoded to enable tracking. A nurse, using a PDA, will scan a patient's barcoded wristband, scan the medication, and scan her ID badge before administering a drug. If the system confirms that the medication being administered is to the right patient at the right dose and at the right time, then the PDA will confirm. The patient's account will then be appropriately charged, the inventory system will be appropriately decremented, and if needed, an electronic order will be placed to the pharmaceutical wholesale company. A similar process will occur when surgical supplies are expended in the operating room.

Highlights

- The materials management project for the operating room (surgery) is somewhat ahead of schedule since the hospital chose to implement a "just-in-time" inventory and delivery system, exactly like the very successful system that has been implemented in the Pharmacy. Within FY2003, this new surgery inventory system should almost completely eliminate standing inventories, resulting in over \$1,000,000 in cost recovery. Key personnel for the conversion team are being identified.
- PDA testing is in process. It is expected that delaying the selection of the PDA will result in the purchase of a device with improved functionality at a lower cost.
- The initial evaluation for the Physician Order Entry project is complete.
- The site survey for wireless Ethernet Local Area Network (LAN) has been completed, but installation of wireless hubs will be delayed until the Medication Administration Check project is closer to completion. Wireless LAN technology continues to improve, and the price continues to drop.



LSU

A Prototype Enterprise Application Hosting Service

Log #: 01-003

Status: In process

The Enterprise Application Hosting Service is intended to provide researchers, educators, and students across the state of Louisiana with access to critical, state-of-the-art knowledge and experience in e-business and e-government technologies. Through this service, researchers, educators and students will be able to 1) learn about existing technologies and integrated business practices (e.g., e-Business and e-Government), 2) study and experiment with new and innovative approaches to technology solutions and integrated business practices, 3) gain hands-on experience and skills on new technologies and business systems, and 4) leverage the "community" to realize new synergies to help distinguish Louisiana in e-business and egovernment education. These goals have been realized, and will continue to be realized, through the SAP UCC Program established between SAP AG and LSU's E.J. Ourso College of Business Administration.

Highlights

- The IBM enterprise servers obtained from LTIF funding, as well as Dell and Compaq enterprise servers obtained from Ourso College sources have been installed as planned.
- Hosting services are now available for a group of SAP University Alliance members including: LSU-Ourso College, University of Florida College of Business, Pennsylvania College of Technology, and Youngstown State University.

A partial list of recently published articles:

Noguera and Watson, E. F. (2003) "Reengineering Business/IS Education with ERP Systems: An Empirical Evaluation of its Effectiveness", to appear in Logistics Information Management Journal.

Watson, E.F., Yoho M., and Riede, B. (2003) "Role of Next Generation Enterprise Applications in Intelligent Enterprises" to appear in Intelligent Enterprises of the 21st Century, (eds: Gupta, J. and Sharma, S.), Idea Group Publishing, Hershey, Pennsylvania, USA.

Yao, Y. and Watson, E.
(2003) "Concerns and
Solutions about Adoption of
Electronic Voting Systems",
In Managing IT in
Government, Business &
Communities, edited by Gerry
Gingrich, Hershey, PA: IRM
Press, Forthcoming.

- SAP program agreements are now in process for other schools who may host from LSU-Ourso including Georgia Institute of Technology, Villanova University, Southern University, Louisiana Tech University, Tulane University, University of New Orleans, Florida International University, and others.
- Opportunities to leverage the SAP UCC for funds to leverage research and academic programs are ongoing. In collaboration with University of New Orleans, Tulane University, and LSU-Shreeveport, the Ourso College is involved in an NSF EPSCOR grant proposal titled "Louisiana Grid for Collaborative Visualization" for \$9,000,000 to support collaborative research work that will be supported by the SAP UCC in the Ourso College. Other such opportunities are currently in the planning stages and include Louisiana Tech University and Southern University.
- Two Ourso College PhD research projects are currently underway in the areas of "Enterprise Application Integration" and "Application Service Providers and Web Services".

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Public Safety



State Trooper Mobile Office

Log #: 02-001

Status: In Process

Proposal to equip 650 Louisiana State Police officers with software, printers, and magnetic swipe devices to create an "office environment" within their vehicles. This will reduce the time that a trooper spends returning to his office to complete paperwork, will provide immediate access to current information on-line, and will allow troopers to fill out and print hard copies of special forms and documents while in the field. It will also allow them to run special training programs on their vehicle laptops during off-peak hours without having to drive to the troop. The increase in trooper patrol time will have a net effect similar to adding troopers to the staff.

Highlights

- Printers with cables have been ordered.
- Completed the installation of Microsoft Office licenses in all the road troopers vehicles.
- The Magnetic Stripe Reader and software are currently out on state bid.

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State Fire Marshall

Fire Marshall Information Management System

Log #: 02-002

Status: In process; 10% Complete

The project is being implemented to provide the ability for the Louisiana Architectural, Engineering, and Construction community ("AEC") as well as the general public to submit and review plans through a web based portal; to provide the State Fire Marshall the ability to perform construction inspections while in possession of the most current information on that specific project; the capability to provide the citizens and businesses of the State of Louisiana electronic communication with the State Fire Marshal's Office via the web; the means of producing quicker and more cost effective correspondence with the AEC and Louisiana citizens; and the implementation of a program that can potentially be interconnected with other state agencies and local municipalities around the country.

Highlights

• Due to regulatory procedures, the project was divided into three phases: purchase of software, purchase of hardware and contractual agreement for consulting services. The first two phases are either complete or nearing completion. The consulting phase is expected to be complete during the month of March, 2003, and the project complete and operational by first quarter, 2004.



Office of E-Services

LouisianaMAP

Log #: 02-010

Status: In process; 40% Complete

The Louisiana Geographic Information Systems Council in partnership with the Office of Electronic Services will implement a 24 month project to address the State's geographic process issues so that all sectors of Louisiana government, businesses and citizens can effectively and efficiently utilize geographic information and services to enhance their business processes. The strategy is to address the geographic process from an *enterprise* perspective through three complementary, integrated initiatives:

- a comprehensive state plan for production, acquisition, and management of key geographic framework information
- a web-based geospatial portal
- training for the use of the data and geographic services provided through the portal

Highlights

- An initial version of the I-Team report has been drafted and will be ready for final publication in March, 2003. Participation in the I-Team process has excellent.
- The base requirements for the LouisianaMAP geospatial portal have been gathered, a functional description has been drafted, and a technical architecture has been developed. Because this portal will be hosted at Louisiana Technology Park, utilizing the web infrastructure selected through the APS product standard ITB, portal completion is dependent upon award of the ITB. Meanwhile, the development personnel have conducted some prototyping of LouisianaMap functionality at the LAGIC lab, working in conjunction with Department of Environmental Quality. The results of this prototyping will be ported to Louisiana Technology Park when the APS is installed. This project should be back on the baseline schedule by July, 2003.



Office of E-Services

e-Government Portal

Log #: 02-010

Status: In Process

This project will establish an e-Government web portal so that anyone can access State government in various contexts such as:

- a life event (moving to Louisiana, starting a new job, marriage, death...)
- an intention-based scenario ("how do I renew my driver's license?")
- a member of a community of interest (citizen, state employee, business, non-resident)
- or based on personal preferences (customized view of pre-selected web pages of interest as part of a user profile)

Key existing web assets in state government will be integrated so that information and services responses will be presented in a seamless fashion and without the need to know or understand the State government organizational structure.

Highlights

- Established Content Management as a line of service available to all state agencies for use in maintaining their web site and associated web content. Two large state agencies are in the process of implementing the line of service for their operations.
- Launched the Citizen Relationship Management element of the new portal as a hosted solution. This capability, known as "Ask Louise" contains answers to the questions most asked of state government. It also provides for electronic submission of queries to government and manages the response process to submitted queries.
- A process was established to permit external agencies to incorporate access to the portal's
 enterprise search engine within their web sites and to apply agency specific filters on the
 returned search results. This line of service is currently available and in use by several
 state agencies and will be a key feature of the new e-Government Portal.
- OES has worked with a design firm to complete the portal web page and navigation
 design and web guidelines. Having this level of design completed and ready for the web
 developer will reduce the portal implementation time. Also, because some state agencies
 are using the design and the associated web guidelines for their new websites, this will
 promote a seamless look and feel as users move across state agencies.
- Developed a Memorandum of Understanding with Louisiana Technology Park to provide the hardware hosting required for the initial portal implementation.
- Ready to bid for portal development





Comprehensive Public Training Program (CPTP)

Statewide Learning Management System

Log #: 02-013

Status: In process; 25% complete

This project is to acquire and implement a centralized statewide Learning Management System (LMS) that will consolidate existing but separate State employee training databases into one repository for all state employee training data. This will create the foundation for an e-learning environment that will allow CPTP to plan, deliver, track, manage and report all types of employee training, offer a full range of content via custom web-based courses and commercially available courses, and create web-based tests and assessments.

Highlights

- Conducted configuration workshop to define technical requirements, administrator and student roles, reporting requirements, views for Web Admin Center, security scheme, data requirements, GUI options, and unique keys and course codes. Configuration workshop document prepared by contractor and approved by project team.
- Contractor installed LMS on SQL Test server, converted Registrar Xbase database to SQL database, created security profiles, customized system based on configuration workshop document, and installed Web-based client on 2 workstations for core team use.
- Core project team attended technical training taught onsite by the LMS vendor.



Office of Information Technology

Prototype for Centralized E-Mail

Log #: 02-014

Status: In Process; 25% Complete

At present, individual state agencies are responsible for providing their own e-mail service, which entails significant hardware, software, personnel and training expenses (or outsourcing), results in service quality that varies drastically between departments, and provides no integration of e-mail or calendaring between state departments. This project will seed the implementation of a statewide e-mail line of service based on a cost recovery model. It will entail one centrally managed standard e-mail offering to replace the three primary e-mail software packages currently deployed statewide, and will provide one common e-mail directory and calendaring tool that can be shared by all State employees while at work or via the Web. Agency subscribers will be charged a set price-per-seat that is lower than the costs associated with managing their individual, distributed sites statewide, and quality of service will improve.

Other key benefits anticipated are: 1) to implement an IT line of service that can provide immediate benefit to core business function that encompasses a large base of the state's workforce; 2) to develop a statewide deployment plan that can be used for this and other enterprise services to be offered in the future; 3) to build the technical and support framework through which other desktop lines of service can be offered.

Highlights

- Hired employees to provide the state email team a full staff.
- Implemented web-based interface with limited capabilities to allow departments to administer email accounts.
- Upgraded Blackberry Enterprise Server, which enhances management features such as
 the ability to change/view users redirector settings; pre-configure default settings for
 BlackBerry Desktop installations, and the ability to support an increased number of users
 on a single physical server.
- Implemented password expiration notification for email users authenticating solely to the mail domain. These are users not associated with their own domain.

Project Progress Reports

The LTIF guidelines stipulate that each award recipient provide progress reports indicating the status of the project, accomplishments by milestone, and expenditure of funds. The latest progress reports for each of the funded projects can be found at http://www.doa.state.la.us/ltif/ltifprop.htm